

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
2 June 2005 (02.06.2005)

PCT

(10) International Publication Number
WO 2005/050869 A1

(51) International Patent Classification⁷: **H04B 7/08, 1/707**

(21) International Application Number:
PCT/EP2003/013677

(22) International Filing Date:
28 November 2003 (28.11.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
PCT/EP 03/12163 31 October 2003 (31.10.2003) EP

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(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

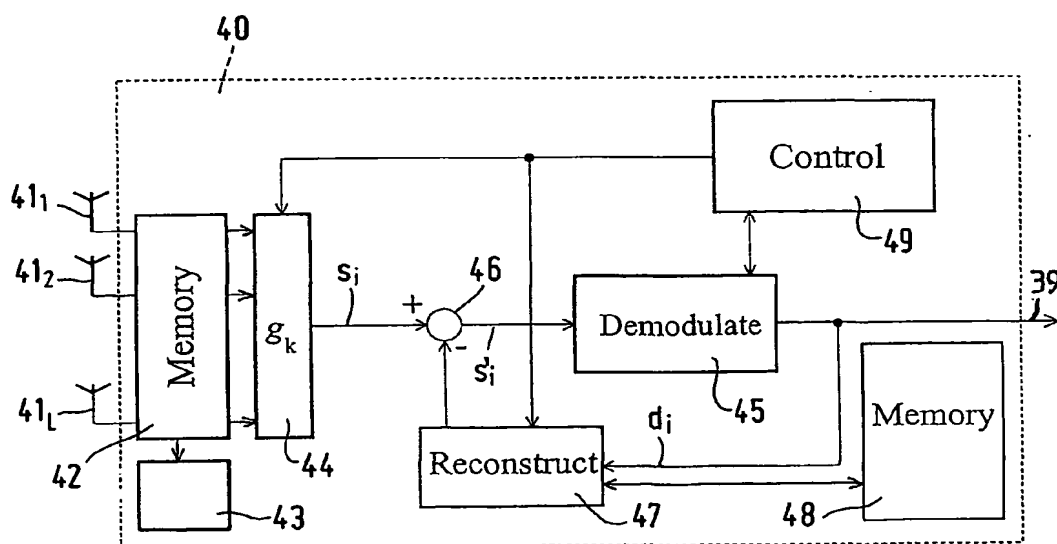
(84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **MULTIPLE ACCESS INTERFERENCE CANCELLATION**



(57) Abstract: Method and device for interference cancellation. A radio access unit comprises a plurality of directionally separated antenna elements (41_k , $K=1, 2, \dots, L$) for receiving signals transmitted by a plurality of remote units. From signals received by each of the antenna elements (41_k) first weighing factors ($g(1)_k$) are determined (49), for optimally selecting signal of a first remote unit (52_1). A first radio signal (s_1) of the first communication unit (52_1) is provided by weighing (44) the received signals using the first weighing factors ($g(1)_k$). For a further radio communication unit (52_i) further weighing factors ($g(i)_k$) are determined. A corrected further radio signal (s'_i) is provided each time by subtracting (46) from the further radio signal (s_i), previously obtained corrected radio signal (s'_{i-1} , s'_{i-1} , ...) weighed by the further weighing factors ($g(i)_k$), till a stop criterium has been satisfied.